CLAIMS

1. (Original) A high throughput method for screening lubricating oil composition samples for compatibility with elastomers, under program control, comprising the steps of:

(a) providing a plurality of different lubricating oil composition samples, each sample comprising (i) a major amount of at least one base oil of lubricating viscosity and (ii) a minor amount of at least one lubricating oil additive;

(b) providing at least one elastomer;

(c) measuring the elastomer compatibility of each sample to provide elastomer compatibility data for each sample; and,

(d) outputting the results of step (c).

2. (Original) The method of claim 1, wherein the at least one base oil of lubricating viscosity is a natural or synthetic oil.

3. (Original) The method of claim 1, wherein the at least one lubricating oil additive is selected from the group consisting of antioxidants, anti-wear agents, detergents, rust inhibitors, dehazing agents, demulsifying agents, metal deactivating agents, friction modifiers, pour point depressants, antifoaming agents, co-solvents, package compatibilisers, corrosion-inhibitors, ashless dispersants, dyes, extreme pressure agents and mixtures thereof.

4. (Original) The method of claim 1, wherein the at least one elastomer is selected from the group consisting of olefinic elastomers, styrenic elastomers, poly(ether/ester) elastomers, polyacrylate elastomers, natural rubbers, synthetic rubbers, elastomer seals and mixtures thereof.

5. (Original) The method of claim 1, wherein the at least one elastomer is an elastomer seal.

6. (Original) The method of claim 1, wherein the step of measuring the elastomer compatibility of each sample comprises immersing the at least one elastomer in the sample at a predetermined temperature for a predetermined period of time and measuring the tensile strength and/or elongation of the elastomer to determine the elastomer compatibility of the sample.

7. (Original) The method of claim 6, wherein the predetermined temperature is about 100°C to about 400°C and the predetermined time is about 100 hours to about 400 hours.

8. (Original) The method of claim 1, wherein the elastomer compatability measurement of step (c) comprises a tensile strength measurement or an elongation measurement.

9. (Original) The method of claim 8, wherein the tensile strength measurement is compared with a predetermined tensile strength measurement of the elastomer.

10. (Original) The method of claim 8, wherein the elongation measurement is compared with a predetermined elongation measurement of the elastomer.

11. (Original) The method of claim 1, wherein the lubricating oil composition test samples have a volume of no more than about 50 ml.

12. (Original) The method of claim 1, wherein the lubricating oil composition test samples have a volume of no more than about 20 ml.

13. (Original) The method of claim 1, wherein the lubricating oil composition test samples have a volume of no more than about 15 ml.

14. (Original) The method of claim 1, wherein the lubricating oil composition test samples have a volume of no more than about 10 ml.

15. (Original) The method of claim 6, further comprising thermally conditioning the elastomer prior to immersing the elastomer in the sample.

16. (Original) The method of claim 15, wherein the elastomer is thermally conditioned at a temperature of about 100°C to about 200°C for about 20 hours to about 60 hours.

17. (Original) The method of claim 1, wherein a robotic assembly selectively retrieves the individual test receptacles from an array of test receptacles and selectively retrieves the at least one elastomer and individually positions the test receptacles and the at least one elastomer in a testing station for determination of the elastomer compatability.

18. (Original) The method of claim 17, wherein the robotic assembly is controlled by a computer.

19. (Original) The method of claim 1, wherein the step of outputting comprises storing the result of step (c) on a data carrier.

20. (Original) The method of claim 1, further comprising the step of using the result of step (d) as a basis for obtaining a result of further calculations.

21. (Original) The method of claim 1, wherein the at least one lubricating oil additive of the lubricating oil composition further comprises a diluent oil to form an additive concentrate.

22-32. (Cancelled)

33. (Previously Presented) A combinatorial lubricating oil composition library comprising lubricating oil composition elastomer compatability data stored on a programmed controller for a plurality of different lubricating oil compositions comprising (a) a major amount of a base oil of lubricating viscosity and (b) at least one lubricating oil additive.

34. (Original) The combinatorial library of claim 33, wherein the lubricating oil composition elastomer compatability data is selected from the group consisting of tensile strength measurements, elongation measurements, and combinations thereof.

35. (Previously Presented) The combinatorial library of claim 33, wherein the controller is a computer or microprocessor.